

SPELEOBREGMA LANZAROTEUM, A NEW GENUS AND SPECIES OF SCALIBREGMATIDAE (POLYCHAETA) FROM A MARINE CAVE IN THE CANARY ISLANDS

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Abstract. — *Speleobregma lanzaroteum*, a new genus and species of polychaete in the family Scalibregmatidae, is described from a marine lava tube cave, Jameos del Agua, on Lanzarote Island, Canary Islands. It differs from all scalibregmatid genera by possessing hirsute hooded geniculate setae. Its placement within the family is discussed.

During a recent cave-diving expedition on Lanzarote in the Canary Islands (Fig. 1), a new genus and species of scalibregmatid was collected by Dennis Williams. The expedition was part of an ongoing study of insular aquatic cave fauna (Ilfie et al. 1984).

Although only one specimen was found,

it is in excellent condition due to careful collection and gentle handling. The specimen contains unique and important systematic characters that warrant a description. Due to the difficulties of cave diving and potential scarcity of material, additional specimens may not be available in the

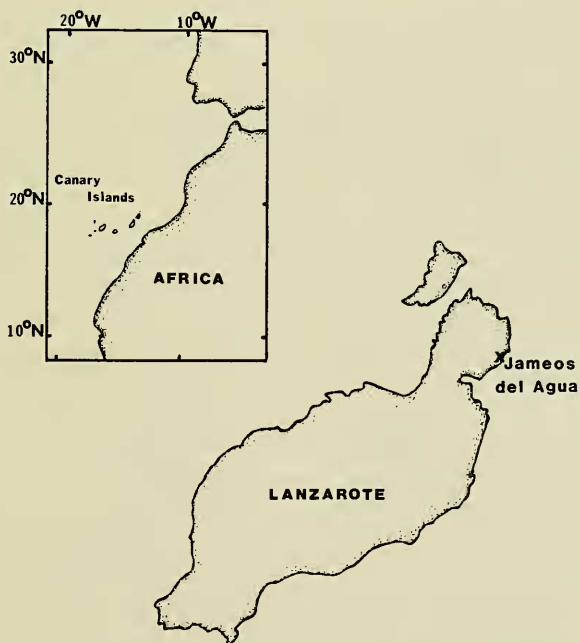


Fig. 1. Map of Lanzarote, Canary Islands. The "x" indicates location of Jameos del Agua, the collection site of *Speleobregma lanzaroteum*. The inset shows the relationship of the Canaries to the coast of Africa and Europe. Lanzarote is the darkened island.

foreseeable future. The holotype is deposited in the National Museum of Natural History, Smithsonian Institution (USNM).

Speleobregma, new genus

Etymology.—"Speleo" referring to cave, "bregma" from the stem of the family. Gender: Neuter.

Type species.—*Speleobregma lanzaroteum*, new species

Diagnosis.—Body elongate, slender, and cylindrical. Prostomium blunt, entire, with lateral horns. Acicular setae and furcate setae lacking; branchiae absent; capillary setae in both rami with hirsute hooded geniculate setae in neuropodia.

Speleobregma lanzaroteum, new species

Figs. 2, 3

Material examined.—Jameos del Agua lava tube cave, Lanzarote, Canary Islands, 4 Mar 1984, 29°12'N, 13°38'W, 20 m, SCUBA, coll. D. Williams, holotype, USNM 98275.

Diagnosis.—Neuropodial hirsute hooded geniculate setae present on all setigers. Parapodia with neuropodial postsetal lamellae and interramal papillae. Pygidium lacking anal cirri; with 2 ventral spherical papillated lobes.

Description.—Holotype 8 mm in length, 0.8 mm in width, 23 setigers. Body colorless, elongate, cylindrical and slender; setigers 7–11 slightly inflated (reduced arenicoliform). Dorsal surface of anterior segments weakly biannulate and areolated.

Prostomium (Fig. 2a) triangular, anteriorly blunt with a pair of tapered lateral horns, eyes absent. Nuchal organs not evident. Proboscis ventral, forming soft, smooth, eversible pouch. Buccal segment apodous and achaetous.

Each parapodium with single spherical interramal organ and cylindrical neuropodial postsetal lamella (Fig. 2b). Lamellae conspicuous on all but last 2 setigers. Branchiae and cirri absent.

All notosetae simple capillaries inserted in single row; up to 20 per fascicle. Neurosetae inserted in 2 rows. Anterior row shorter than posterior row, consisting of 5 to 9 hirsute, distally abruptly tapered, hooded geniculate setae (Fig. 3b). Posterior row all capillaries.

Pygidium with 2 heavily papillated ventral spherical lobes. Lobes with anteroventral groove extending halfway across ventral surface (Fig. 3a). Anal cirri lacking.

Distribution.—Known only from type locality, Jameos del Agua Cave, Lanzarote, Canary Islands.

Etymology.—The specific epithet is taken from the type locality, Lanzarote Island.

Discussion

Lanzarote and its large marine lava tube cave, Jameos del Agua, are noted for their unusual fauna (Dinkins 1969; Iliff et al. 1984). This species, typical of many cave organisms, is eyeless and lacks pigment. The thickened areolated epidermis, common among scalibregmatids, is reduced in this species. Staining with fast-blue aided in revealing this character.

Following the organization of the family Scalibregmatidae proposed by Blake (1981), *Speleobregma* belongs to body type I (arenicoliform with T-shaped prostomium) and parapodial type D (dorsal and ventral cirri absent; prolonged postsetal lamellae present). This classification includes the genera *Scalibregmidex* (Hartmann-Schröder 1965) and an undescribed genus (for *Asclerocheilus californicus* Hartman, 1963). *Speleobregma* differs from them in having long postsetal lamellae only on the neuropodia and in lacking furcate setae.

The only other species lacking furcate setae is *Kebuita minuta* Hartman, 1967. *Speleobregma* differs in body form in that *Kebuita minuta* is maggotlike.

Speleobregma differs from all scalibregmatid genera by possessing hirsute hooded geniculate setae.

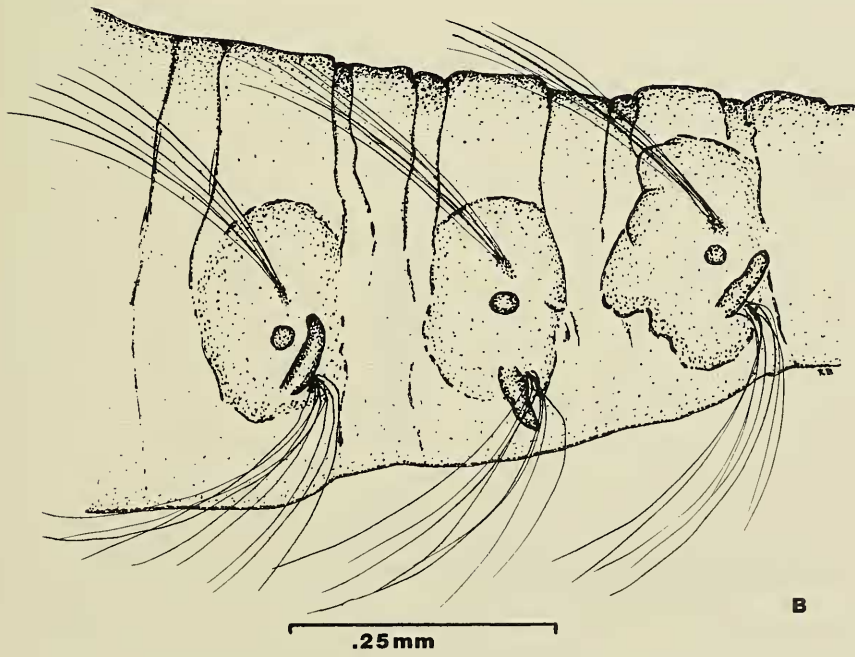
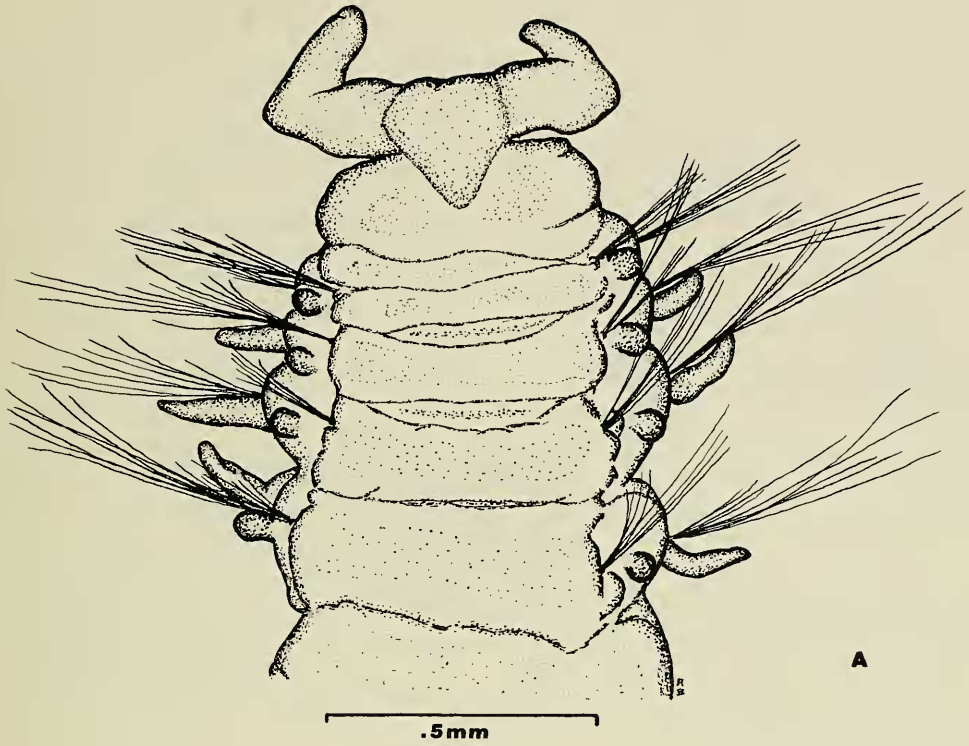


Fig. 2. *Speleobregma lanzaroteum*: A, Anterior end, dorsal view; B, Setigers 3-5, lateral view.

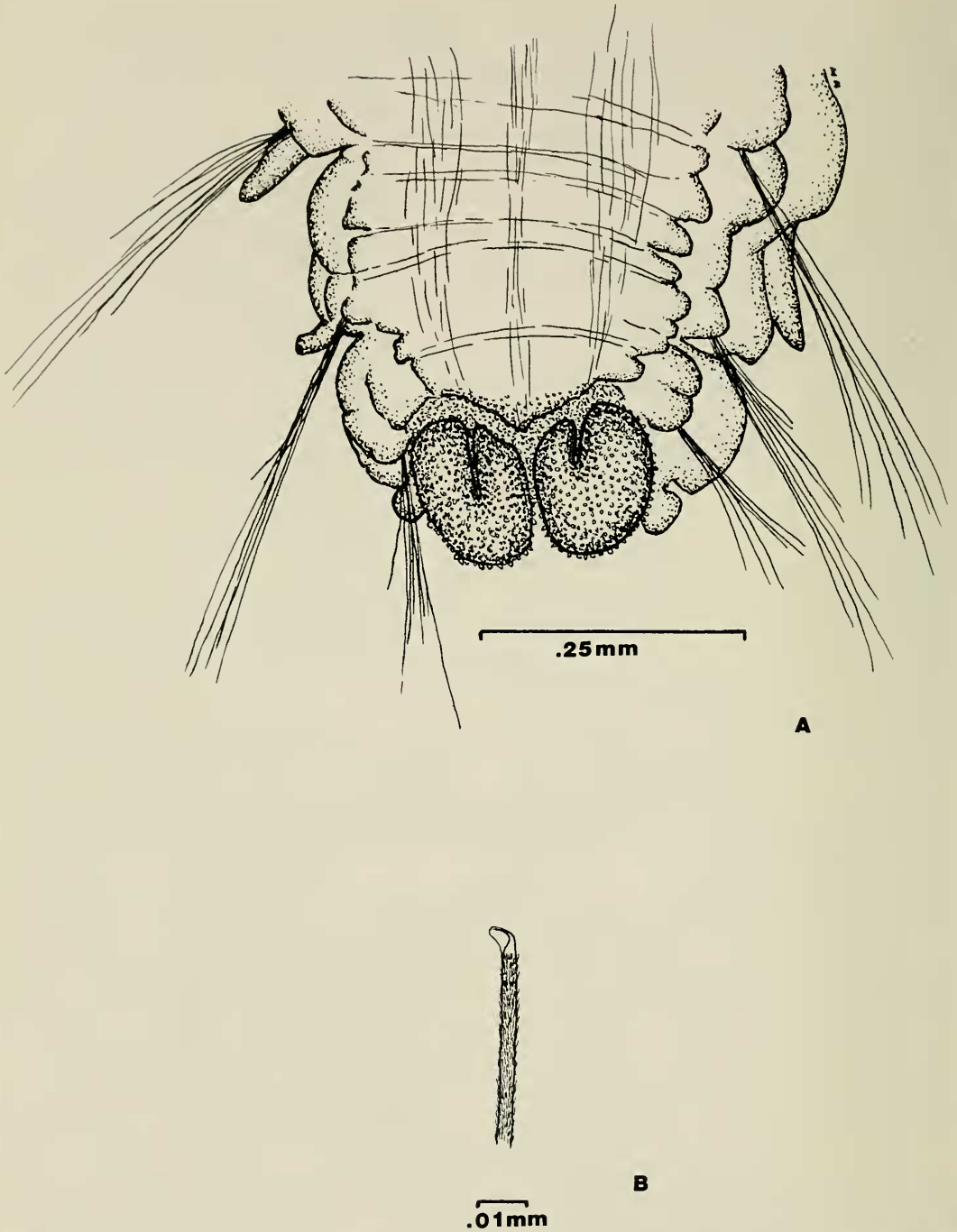


Fig. 3. *Speleobregma lanzaroteum*: A, Pygidium, ventral view; B, Neuropodial hirsute hooded geniculate seta.

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Literature Cited

- Blake, J. A. 1981. The Scalibregmatidae (Annelida: Polychaeta) from South America and Antarctica collected chiefly during the cruises of the R/V *Anton Bruun*, R/V *Hero* and USNS *Eltanin*.—Proceedings of the Biological Society of Washington 94(4):1131–1162.
- Dinkins, S. 1969. Lanzarote, the strangest Canary.—National Geographic Magazine 135(1):117–139.
- Hartman, O. 1963. Submarine canyons of southern California. Part 3. Systematics: Polychaetes.—Allan Hancock Pacific Expeditions 27(3):1–93.
- . 1967. Polychaetous annelids collected by the USNS *Eltanin* and *Staten Island* cruises, chiefly from Antarctic seas.—Allan Hancock Monographs in Marine Biology 2:1–387.
- Hartmann-Schröder, G. 1965. Die Polychaeten des Sublitorals. In Hartmann-Schröder, G., and G. Hartmann. Zur Kenntnis des Sublitorals der chilenischen Küste unter besonderer Berücksichtigung der Polychaeten und Ostracoden.—Mitteilungen aus dem Hamburgischen Zoologischen Museum und Institut, Supplement 62: 59–305.
- Iliffe, T. M., H. Wilkens, J. Parzefall, and D. Williams. 1984. Marine lava cave fauna: Composition, biogeography, and origins.—Science 225:309–311.

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